March 9, 2005

Harry Stoller
Illinois Commerce Commission
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CC: Michelle Mishoe
Illinois Commerce Commission
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Dear Mr. Stoller:

Thank you for this opportunity to comment on the implementation of Governor Blagojevich's proposal for a sustainable energy plan in Illinois. We applaud the Governor and the Illinois Commerce Commission for making this effort to increase the amount of renewable energy generated in the state and reduce the total demand for electricity through energy efficiency measures. These actions will greatly benefit the state because of their significant environmental and economic advantages.

Wind energy, which we believe will constitute much of the renewable energy procured to meet the Renewable Portfolio Standard (RPS), brings many of these advantages. Wind energy does not release any pollutants, such as CO_2 (a greenhouse gas that contributes to global climate change), SO_2 (which causes acid rain), NO_x (which causes smog), or mercury (which causes neurological damage in fetuses and children). Assuming a 33% capacity factor, 3000 MW of wind would prevent on an annual basis the emission of nearly 5 million tons of CO_2, more than 20,000 tons of NO_x, nearly 12,000 tons of SO_2, and more than 300 pounds of mercury.[1] Wind is sited in rural communities and will be a significant source of revenue to farmers who host wind turbines (projected at roughly $8 million per year assuming 3000 MW). Wind will create employment opportunities (roughly 4500 temporary construction jobs and 200 permanent jobs), and will pay property taxes to local counties and schools of roughly $16 million per year. Wind energy also diversifies the state's energy supplies and helps protect ratepayers from volatile fuel costs.

Renewable Portfolio Standards have proven to be the single most effective policy to increase the amount of wind and other renewable generation in a given state. Once the government establishes the goals, competitive processes can take over and the market decides the best way to fulfill the requirements. Other types of programs such as production-based incentives and grants do not offer clear renewable energy targets and

[1] Based on EPA eGRID emissions data for the state of Illinois for the year 2000.

are not the most efficient way of achieving such targets. Following are our comments regarding the implementation of the Illinois RPS and what we feel would be the best policies and procedures to ensure a successful outcome.

Renewable Energy Procurement Standard

Renewable Portfolio Standards have been implemented in seventeen states (including Arizona, California, Colorado, Connecticut, Hawaii, Iowa, Maine, Maryland, Massachusetts, Minnesota, Nevada, New Jersey, New Mexico, New York, Pennsylvania, Texas, Wisconsin and Washington D.C.). Information on these programs can be found at an excellent website called the Database of State Incentives for Renewable Energy, www.dsireusa.org. Arguably, the most successful program has been in Texas under legislation signed into law by then Governor George Bush. In the Lone Star state, RPS goals have consistently been achieved years prior to their deadlines. In 2001, the first year of the RPS, more than 900 MW were installed, an amount not required until 2005. The current RPS calls for 2000 MW by 2009, and this goal is expected to be met by end of 2005. The RPS is ahead of schedule because wind energy turned out to be much cheaper than anticipated; utilities liked the hedge against volatile fuel costs, and wind farms were very popular with landowners and county officials. Because of the success of the Texas RPS, expansion is under active consideration. The Texas Energy Planning Council has recommended that the RPS be increased to 5,000 MW by 2015 and 10,000 MW by 2025, and the 5,000 MW legislation is very likely to pass.

There are several reasons for the success of the program, including: (1) the amount of renewables demanded by the standard is strong and is backed by clear penalties of $50 per MWH for non-compliance; (2) the renewable energy is procured by the utilities through their own processes in the locations that make the most sense to them; (3) the renewable energy credit (REC) trading system has proven to be an effective market mechanism for achieving compliance at the lowest cost; and (4) the state has good indigenous wind resources and project siting opportunities. Illinois is capable of having a similarly successful program. The state can implement similar rules and procedures and has enough wind resources to comfortably satisfy the requirements.

Eligible Renewable Energy Resources

AWEA is satisfied with the current definition of renewables. Illinois currently has 52 MW of installed wind capacity: the Mendota Hills Wind Farm in north-central Illinois and one wind turbine installed by the Bureau Valley School District. There are approximately 2,000 MW of wind projects in Illinois in the transmission queue. Assuming retail electric sales grow 1.5% annually from 2002 sales, and assuming average wind farm capacity factors of 33%, this would account for all the renewable energy that would be needed by 2011. Illinois should eventually be able to install nearly 7000 MW of wind power[2], especially given rapidly advancing turbine technologies that

[2] Wind Energy Potential - An Assessment of the Available Windy Land Area and Wind Energy Potential in the Contiguous United States, Pacific Northwest Laboratory, 1991. Illinois potential average power output: 6,980 MW.

are making wind turbines bigger and more efficient every year. In terms of whether or not there is sufficient land space in Illinois for 3,000 MW of wind turbines, this goal seems readily feasible when compared to countries in Europe, where higher population densities haven't precluded installing significant capacity per square mile, as shown in the table below. Indeed, Europe has put great efforts into installing as much capacity as possible and has been the impetus for many of the advances in turbine technology that have lead to these high numbers.

Country	Land area (square miles)	Population Density (#/sq.mi)	Total installed capacity at end 2004 (MW)	Total installed capacity at end 2004 (kilowatts/sq.mi)
Denmark	16,630	320.1	3,117	187
Germany	137,800	597.2	16,629	121
Netherlands	14,410	1,100.6	1,078	75
Spain	194,900	302.1	8,263	42
Illinois	*55,580*	*223.4*	*7000**	*126*

* Proposed. Actual is 52 MW.

Source: Country information from New Zealand Wind Energy Association. State data from U.S. Census Bureau and AWEA.

Wind Integration and Price Effects – New York's Analysis

To better understand some of the technical issues of large-scale wind power, the State of New York commissioned a study titled "*The Effects of Integrating Wind Power on Transmission System Planning, Reliability, and Operations*." The report used as its starting point the RPS adopted by the New York Public Service Commission, which sets forth a goal of 6% additional renewables by 2013. This RPS goal leads to a base case of an expected 3,300 MW of wind energy (10% of NY State peak load). The study looked at the impacts on the following aspects of grid performance: reliability and generation capacity; forecast accuracy; operation of day-ahead and hour-ahead markets; economic dispatch and load following; regulation; and stability performance following major disturbances to the grid. The report is available on the web at http://www.nyserda.org/rps/draftwindreport.pdf. While voluminous, the report is extremely comprehensive and is highly recommended by AWEA for policy-makers considering RPS initiatives.

The report concluded that "based on the results of this study, it is expected that the New York State Bulk Power System can reliably accommodate at least 10% penetration, 3,300 MW of wind generation with only minor adjustments to its existing planning, operation, and reliability practices." The report found that 3,300 MW of wind would displace mostly gas-fired generation (60%-65%), 10%-20% coal, 10%-15% imports, and 5%-10% oil. The amount of oil displaced would account for between 5% and 15% of the existing

oil-fired generation in the state. The emission of roughly 12,000 tons of SO_x and 6,000 tons of NO_x would also be prevented. Though most of the wind capacity would be located upstate, a significant amount of generation would be downstate, with no significant increase in congestion. Most interestingly, the report found that because wind in New York would be bid into NYISO-run markets at very low bids, the effect of "must run" wind on the system would be to reduce the average clearing price for *all energy*. This quantity of wind would reduce wholesale power costs by over $300 million. According to the study, this would imply that the RPS would pay for itself twice over, without even counting emissions reductions or local economic development.

Competitive Procurement

A competitive procurement process is the best way to obtain renewables contracts at the lowest cost. We recommend that the utilities themselves procure the renewable energy, for they are the experts at buying electricity. The Illinois Commerce Commission will certainly need to approve the contracts, but it should be the responsibility of the utilities to obtain them. Under Locational Marginal Pricing (LMP), different projects will have different electricity values, and through competitive procurement by the utilities, the most reasonable costs will be achieved. Utilities will likely find some projects to be more attractive than others because of location and transmission issues, making this type of arrangement ideal.

Interstate Renewable Energy Credit (REC)Trading

We suggest the Commerce Commission establish an aggressive timeline to create a regional REC trading market. We believe Illinois has a robust wind resource and in the short term will provide the least cost, most easily integrated wind resources. However, we believe a regional market will add competitive market pressures to the price of wind resources, create an export market for Illinois wind projects, and add additional integration flexibility.

Penalties for Noncompliance

In order to demonstrate compliance with the provisions of the RPS, utilities should be required to submit an annual report containing the following at a minimum:

1) total retail kWh sales
2) total retail kWh sales from renewable generation
3) total amount of renewable energy credits procured.

If a utility is unable to demonstrate compliance, it should be required to pay the alternative compliance payment of $25/MWh. This amount is necessary as a minimum to ensure compliance and should provide enough incentive to procure the required amount of renewables. The compliance payment will also act as a price cap on renewable energy, so that if tax benefits for renewables are eliminated and technological

improvements do not continue to materialize, Illinois will not be paying excessively high costs for renewable energy.

Conclusion

Illinois is in an excellent position to make a meaningful impact on the state's environment, economy, and electric generation by implementing an RPS program. The experiences of other states bring many lessons as to the important elements of a successful program: aggressive, long-term goals; competitive procurement by utilities; a renewable energy credit trading system; and strong penalties for noncompliance. We would be happy to meet with the Illinois Commerce Commission and other parties to discuss topics in further detail or answer any questions. Thank you for this opportunity to comment.

Sincerely,
(Signed by)

Mike Jacobs
Acting Policy Director
American Wind Energy Association